

Research Article

Mediating Effect of School Nurses' Self Efficacy between Multicultural Attitude and Cultural Sensitivity in Korean Elementary Schools



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SUMMARY

Purpose: This study examined the mediating effect of school nurses' self efficacy, which is one of the significant cognitive factors influencing cultural sensitivity, on the mutual relationships between multicultural attitude and cultural sensitivity in Korean elementary schools.

Methods: A cross-sectional descriptive survey design was used. Participants were 157 school nurses in elementary schools located in Gyeonggi-do, South Korea. The survey instruments included Teacher Multicultural Attitude Survey, Teacher Efficacy Scale, and Multicultural Sensitivity Scale. Data were analyzed using three regression equations to test the mediation model.

Results: The mean score of the school nurses' cultural sensitivity was relatively low. A positive correlation among multicultural attitude, self efficacy, and cultural sensitivity was noted. Self efficacy of school nurses showed a significant mediating effect on the relationships between multicultural attitude and cultural sensitivity.

Conclusions: Given the meaningful influence of positive multicultural attitude on cultural sensitivity and significant mediator effect of self efficacy as a school nurse between the two variables, the strategies to cultivate a positive multicultural attitude and enhance school nurses' self efficacy in their unique role should be considered in a training program. School nurses' health care services will benefit from the improvement of cultural sensitivity toward young children from multicultural families.

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Introduction

Korea has gradually evolved from a homogenous society to one in which multicultural families are on the rise. The number of cross-cultural marriages—a social issue highlighted as the main factor behind the upsurge of multicultural families in Korea—is rapidly rising, accounting for 8.7% of all Korean marriages in 2012 [1]. Along with the growing number of international marriages, the number of children born into multicultural families is increasing. With an estimated 46,954 children born to multicultural Korean families in 2012, this figure is a 5.8-fold increase from the 7,998 born in 2006, and is anticipated to reach 1 million in 2020 [1,2].

As “migrant wives” and their children are considered Korean nationals, the way in which they might adapt to Korean society and its culture is an important social agenda directly linked to Korea's future [3–6]. The period of childhood is in need of even greater attention and care. Children from multicultural backgrounds are, in particular, more likely to experience an enhanced degree of conflict and personal crisis during their acculturation in addition to the typical changes and issues that accompany physical and psychological development at that age [7]. From the time that multicultural children start to engage in the public system, such as school, it is critical to provide them with the psychological and social support necessary to ensure their healthy physical growth.

In this context, the role of school nurses is vital, as they are in a position to provide direct support for the child's physical and psychological health. A school nurse in charge of health care services for children who are enrolled in school needs to have a level of cultural sensitivity to effectively communicate and deliver qualified

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nursing care to children from multicultural families [8,9]. Cultural sensitivity is defined as the awareness of subtle cultural differences between oneself and people from other cultures that results in applying one's knowledge, showing appreciation and respect, and adjusting one's behavior with regard to other cultures [8,10]. The various variables such as cultural desire, cultural awareness, cultural knowledge, cultural skills, caring, or cultural encounter has been reported as the subconstructs of cultural sensitivity [11,12].

One of the most important prerequisites for achieving certain levels of cultural sensitivity can be multicultural attitude [13]. When a school nurse has carefully internalized qualities based on comprehension and sympathy toward multicultural children and their families [14], it is possible to hypothesize that a positive multicultural attitude is an antecedent to promoting cultural sensitivity [15].

Another critical variable that affects the cultural sensitivity of school nurses is self efficacy—a significant cognition affecting one's cultural sensitivity. Due to the legally required dual roles as an educator and health care provider for children in elementary schools, a school nurse is referred to as “health teacher” in the Korean society. The self efficacy of school nurses has been defined as the self-perceived capabilities in performing the role of health educator and health care provider for young children in schools [16], including children from multicultural families. Dawson and Lighthouse [17] emphasized the role of self-efficacy, in properly managing education and healthcare for a group of people comprised of various races and cultures. Self-efficacy can be applied to a school health environment as school nurses' self-efficacy, which is the self-perceived capabilities of performing the job of a school nurse, rather than the objectively assessed professional abilities a school nurse has [16]. The cognitive factor of self efficacy was a key element in attaining cultural sensitivity [18]. Therefore, school nurses' self efficacy can be considered a significant variable in facilitating their cultural sensitivity.

With a continued increase in children from multicultural families, considerable studies have addressed cultural sensitivity. However, studies on teachers' cultural sensitivity are limited and those on school nurses are rarer, despite significant increases in school-aged children from different cultural backgrounds.

Considering the school nurses' significant role as a health educator and care provider in elementary schools, where children having different cultural background from Korean main stream culture is growing, the examination on school nurses' multicultural attitude and cultural sensitivity would be meaningful. In particular, considering the reported correlation between multicultural attitude and cultural sensitivity in the general teachers' sample [25], the investigation on the mediating effect of self efficacy as a significant cognitive factor on the relationship between multicultural attitude and cultural sensitivity of school nurses in elementary schools is necessary. In this study, we examined the current status of multicultural attitudes and cultural sensitivity of school nurses in Korean elementary schools and investigated the mediating effect of their self efficacy as school nurses on the relationships between multicultural attitudes and cultural sensitivity.

The study results were expected to provide empirical evidence on the cultural sensitivity of school nurses and basic data that would be helpful in the development of an intervention program to facilitate school nurses' cultural sensitivity, ultimately improving the health status of young students from multicultural families.

Methods

Study design

This study is a cross-sectional descriptive survey designed to examine the mediating effects of school nurses' self efficacy on the

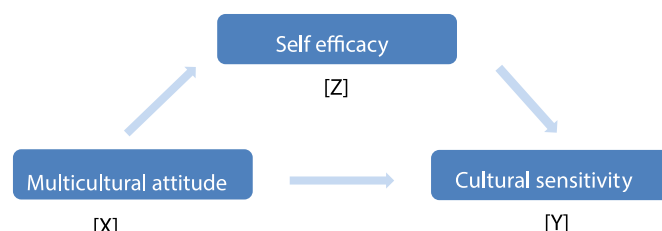


Figure 1. Conceptual framework.

relationships between their multicultural attitude and cultural sensitivity. Figure 1 shows the conceptual framework of this study. It shows the hypothesized causal paths by setting a mediating variable (Z, self efficacy) between an independent variable (X, multicultural attitude) and a dependent variable (Y, cultural sensitivity). We hypothesized that the positive multicultural attitude of school nurses affects their self efficacy as a school nurse and subsequently enhances their cultural sensitivity toward children from multicultural families.

Sample and setting

School nurses in elementary schools were the target population and 180 participants in the Gyeonggi-do region were initially recruited using convenient sampling. Using G*power 3.1.2 software (Heinrich-Heine-Universität Düsseldorf, Düsseldorf, North Rhine-Westphalia, Germany), the calculation of sample size was based on the formulation proposed by Soper [19]. When we included two dependent variables at the third step with a moderate effect size of 0.15 and significance level at .05, the minimum sample size was 107 to maintain maximum power of 0.95. Assuming 40.0% of wastage rate, the calculated minimum sample size was 167. Although a general wastage rate of 20.0% was used, we considered a wastage rate as 40.0% as we collected the questionnaire via postal mail or fax which may increase the drop-out rate. The response rate was 92.8% (167/180) and finally 157 samples were included for data analysis after deleting 10 insufficiently answered questionnaires.

Data collection and procedure

After obtaining approval from Dongguk University (No. IRB-13-142), data were collected from July to December 2013. With cooperation from Gyeonggi-do Health Teacher Association, we initially got a list of schools and school nurses in the region. Based on convenient sampling, preliminary telephone contact with a school nurse by the research teams was undertaken. Verbal permission was obtained from each school nurse after explaining the study aims, process, procedural details, participants' rights, and potential benefits and risks. We also informed them that they could contact the research team with any questions and could withdraw from the study at any time. Upon agreeing to participate in this study, the research team sent the questionnaires and written consent forms to the school nurses. School nurses were asked to send the questionnaire back by letter mail or fax after its completion. School nurses were given a gift card (8 US dollars) as a token of appreciation for their time and effort.

Measurements

Multicultural attitude

The Teacher Multicultural Attitude Survey (TMAS) [20], a 20-item questionnaire originally developed to measure multicultural attitude of school nurses, was used to examine the participating school nurses' multicultural attitudes. We used the Korean version of the TMAS

through backward–forward translation with an acquisition of experts' face validity. First, after getting approval from the author who developed original TMAS, the English version was translated into Korean by two experts in English–Korean translation and in nursing care for multicultural family and cultural sensitivity. Next, another bilingual expert who had a doctoral degree in the United States performed the backward translation. Then, the back-translated version was compared to the original version to confirm the adequacy and accuracy of the translation. After reviewing any discrepancies between the two versions, we examined the content validity from the group of experts, composed of three nursing professors, a nursing researcher, and a school nurse at an elementary school. Based on the confirmation from the group of nursing experts, a pilot test for comprehensibility and clarity of 20 items was performed by 10 school nurses. The respondents reported no specific problems with this instrument, and the 20-item Korean version TMAS was finalized. Each item was rated on a 5-point scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). The example item included was, "The teaching method needs to be adapted to meet the needs of a culturally diverse student group." High scores indicate a school nurse's positive attitude toward interacting with young students from different cultural backgrounds. Cronbach's alpha for the original sample was .86 [20] and .80 in this study.

Self efficacy as a school nurse

To examine school nurses' self efficacy in their roles, the Teacher Efficacy Scale (TES) [16], a 24-item questionnaire, was used. The TES included four subscales—such as instructional efficacy, health service efficacy, task-interpersonal efficacy, and community connection efficacy—sensitively encompassing the unique roles of Korean school nurses. Each item was rated on a 5-point scale, from 1 (*do not agree*) to 5 (*strongly agree*); the included sample question was, "I can grasp personal and material resources that are possible to use". High scores indicate higher self efficacy as a school nurse. Cronbach's alpha for the original TES was .94 and the individual subscales were .89 for instructional efficacy, .75 for health service efficacy, .90 for task-interpersonal efficacy, and .86 for community connection efficacy [16]. In this study, the reliability of this instrument was established with a Cronbach's alpha of .96 and the individual subscales were .83 for instructional efficacy, .72 for health service efficacy, .93 for task-interpersonal efficacy, and .88 for community connection efficacy.

Cultural sensitivity

The Multicultural Sensitivity Scale (MSS) [20], a 21-item questionnaire, was used to measure the cultural sensitivity of elementary school nurses. It measures school nurses' ability to perceive a subtle cultural difference when interacting with children from a different cultural background from their own and the ability to respect different cultures sensitively. After backward–forward translation of the original measure and obtainment of content validity from relevant professionals, the questionnaire was refined. The question included was, "When I observe the hardships of some children, I understand why they are not proud of their ethnic identity." Each item was rated on a 6-point scale, from 1 (*strongly disagree*) to 6 (*strongly agree*), with higher scores indicating higher cultural sensitivity. Cronbach's alpha for a sample of American school nurses was .89 [10]; and, for the current study of Korean elementary-school nurses, it was .86.

Data analysis

SPSS for Windows version 15 (SPSS Inc., Chicago, IL, USA) was used to perform the statistical analysis of the data. To describe the demographic characteristics of the study sample, we calculated the descriptive statistics. The differences in cultural sensitivity by the

demographic characteristics were analyzed using *t* test, analysis of variance, and Duncan's multiple comparison tests. We obtained Pearson's correlation coefficient for the relationships between the variables included.

To analyze the mediating effect of school nurses' self efficacy on the relationship between multicultural attitudes and cultural sensitivity, we used Baron and Kenny's [21] regression method. This requires three elements to establish a valid mediation model: the independent variable is a significant predictor of the mediator at Step 1; the independent variable is a significant predictor of the dependent variable at Step 2; and the mediator is a significant predictor of the dependent variable at Step 3, although the effect of the independent variable must be greater at Step 2 than it is at Step 3.

Results

Demographic characteristics

The school nurses' average age was 43.7 years ($SD = 6.61$), with a range of 27–59 years. About 88.5% ($n = 139$) of the school nurses were married and living with their spouses. School nurses' career duration ranged from 1 to 33 years ($M = 16.19$, $SD = 7.84$). The majority (87.9%, $n = 138$) had a university-level education. Nearly two thirds of the school nurses (68.8%, $n = 108$) had experience caring for a child from a multicultural family. Approximately 84.1% ($n = 132$) had at least one experience related to multicultural education. Most participants (85.4%, $n = 134$) recognized the need for multicultural education (Table 1).

Cultural sensitivity by demographics

Significant differences in the cultural sensitivity of school nurses was reported according to their age ($F = 5.41$, $p = .005$), previous experience of caring for children from multicultural families ($t = 2.01$, $p = .050$), and perception of the need for multicultural training ($t = 3.02$, $p = .003$).

Specifically, when school nurses were younger than 35 years old (69.05 ± 8.51), there was a higher cultural sensitivity score than there was for school nurses who were older than 45 years old (61.93 ± 13.50). School nurses with previous experience caring for children from multicultural families revealed a higher cultural sensitivity score (69.06 ± 10.20) than those without the experience (64.78 ± 10.19). School nurses who perceived the need for multicultural training (66.78 ± 9.39) had a higher cultural sensitivity score than those who believed there was no need for training (60.09 ± 12.10).

Mean scores and correlations among variables

In this sample of school nurses in elementary schools, multicultural attitude scores on the TMAS ranged from 2.40 to 4.0 ($M = 3.14$, $SD = 0.23$). Cultural sensitivity scores on the MSS ranged from 1.67 to 4.52 ($M = 3.13$, $SD = 0.48$) and self efficacy as a school nurse on the TES ranged from 2.13 to 5.0 ($M = 3.70$, $SD = 0.57$) (Table 2).

The cultural sensitivity of school nurses was positively correlated with their multicultural attitude ($r = .61$, $p < .001$) and self efficacy ($r = .60$, $p < .001$). Likewise, a multicultural attitude was positively correlated with self efficacy as a school nurse ($r = .36$, $p < .001$) (Table 3).

Mediating effect of school nurses' self efficacy on their cultural sensitivity

The results of our three-step regression analysis on the mediating effect of school nurses' self efficacy are shown in Table 4 and

Table 1 Demographic Characteristics of Participants and Differences in Cultural Sensitivity (*N* = 157).

Variables	Categories	<i>n</i> (%)	Cultural sensitivity		
			<i>M</i> ± <i>SD</i>	<i>F</i> or <i>t</i>	<i>p</i>
Age (yr) [†]	< 36	15 (9.6)	69.05 ^a (8.51)	5.41	.005
	36–45	84 (53.5)	64.25 ^b (9.88)		
	> 45	58 (36.9)	61.93 ^b (13.50)		
Marital status	Single	18 (11.5)	61.11 (15.40)	−1.43	.170
	Married	139 (88.5)	66.41 (9.07)		
Total length of teaching career (yr)	< 10	21 (13.4)	61.81 (12.66)	2.80	.064
	10–20	99 (63.1)	65.74 (10.07)		
	> 20	37 (23.5)	68.24 (7.68)		
Education	College	19 (12.1)	64.84 (10.83)	0.11	.900
	University	109 (69.4)	65.99 (9.68)		
	Master's	29 (18.5)	65.72 (11.28)		
Experience of caring for multicultural children	Yes	108 (68.8)	69.06 (10.20)	2.01	.050
	No	49 (31.2)	64.78 (10.19)		
Experience of multicultural education	Yes	132 (84.1)	66.10 (10.20)	0.85	.399
	No	25 (15.9)	64.24 (9.39)		
Recognition of need for multicultural education	Yes	134 (85.4)	66.78 (9.39)	3.02	.003
	No	23 (14.7)	60.09 (12.10)		

[†] Showed group difference by Duncan test, a > b.

Figure 2. Based on the three-step regression method of Baron and Kenny [21], we figured out the mediating effect of self efficacy on the relationships between multicultural attitude and cultural sensitivity. In step 1, multicultural attitude (independent variable) had a significant effect on school nurses' self efficacy (mediating variable). In step 2, the multicultural attitudes of school nurses had a significant effect on cultural sensitivity (dependent variable). When both multicultural attitudes and school nurses' self efficacy were added for step 3, school nurses' self efficacy had a significant effect on cultural sensitivity, whereas multicultural attitudes had less effect on cultural sensitivity relative to step 2. The standardized regression coefficient (β) of Step 3 was estimated at .46, which is a smaller value than that observed at Step 2 (.61), and the effect was statistically significant. This suggests that school nurses' self efficacy showed a partial mediating effect in the spectrum of multicultural attitude and cultural sensitivity.

Discussion

With a significant increase in the number of multicultural families and subsequent upsurge of school-aged children born and raised in multicultural families, a health care provider's role is to help them experience adaptive acculturation, alongside healthy growth and development in Korean society. Given the important role of school nurses in ensuring the healthy development of young students from multicultural families, we examined the variables of multicultural attitude and cultural sensitivity in school nurses at elementary schools and investigated the mediating effect of school nurses' self efficacy—a significant cognition that alters one's cultural sensitivity—on the relationship between the two variables.

The cultural sensitivity score estimated for the school nurses in the present study was relatively low (an average of 3.13 points out of 6). The result is similar to the one found in the nursing school faculty members [22] and in medical centers [23]. The score was lower than the one found for college students at nursing schools in Korea [24]. There was agreement that the cultural sensitivity of

health care providers affects the quality of health care services both directly and indirectly [25,26]. That is, when health care providers have high cultural sensitivity, they are better able to appreciate and accommodate cultural differences in clients and are better at resolving any issues related to health care services [25–27]. Given the relatively low mean scores of cultural sensitivity in this population, the need to develop educational content and programs to improve the levels of cultural sensitivity of school nurses seems urgent. Health care providers, including nursing students who have received various types of training on cultural sensitivity, showed a heightened level of understanding and communication capabilities in multicultural issues as well as strong capability in their general clinical practices [25,26]. The United States, a country with a long tradition of multiculturalism, also regards cultural sensitivity as one of the essential objectives for professional workforces in local communities [27]. Considering that most school nurses in Korea do not have access to educational programs related to cultural diversity during the course of their undergraduate studies, we have clarified the essential educational elements of cultural sensitivity and, based on the data reported in this study, suggest the development of relevant training programs.

Significant differences in cultural sensitivity were reported for various demographic attributes, such as previous experience with multicultural children, and personal awareness of the need for multicultural education. First, teachers under 35 years of age were found to have a higher degree of cultural sensitivity compared to teachers over 45 years of age. This confirms the data reported by Lee [28] who investigated the cultural sensitivity in general teachers working at elementary schools. It suggests that the less experience teachers had and the younger they were, the higher their general understanding of multiculturalism. The potential reasoning for this is that relatively younger nurses could have had more contact with foreigners and exposure to different cultures in comparison to older nurses. Second, it was revealed that nurses who had previous experience in caring for children from

Table 2 Descriptive Statistics of Study Variables (*N* = 157).

Variable	<i>M</i> ± <i>SD</i>	Item <i>M</i> ± <i>SD</i>	Min	Max
Multicultural attitude	62.87 ± 4.61	3.14 ± 0.23	2.40	4.0
Self efficacy	88.88 ± 13.63	3.70 ± 0.57	2.13	5.0
Cultural sensitivity	65.80 ± 10.07	3.13 ± 0.48	1.67	4.52

Table 3 Correlation Coefficients of Study Variables (*N* = 157).

	Multicultural attitude	Self efficacy	Cultural sensitivity
Multicultural attitude	1		
Self efficacy	.36 (< .001)	1	
Cultural sensitivity	.61 (< .001)	.60 (< .001)	1

Table 4 Mediating Effect of Self Efficacy on Relationships between Multicultural Attitude and Cultural Sensitivity (N = 157).

Step	Independent variable	Dependent variable	$\hat{\alpha}$ (p)	F (p)	R ²	ΔR^2
1	Multicultural attitude	Self efficacy	.36 (< .001)	22.39 (< .001)	.13	.13
2	Multicultural attitude	Cultural sensitivity	.61 (< .001)	92.13 (< .001)	.37	.37
3	Self efficacy	Cultural sensitivity	.43 (< .001)	54.63 (< .001)	.16	.16
	Multicultural attitude	Cultural sensitivity	.46 (< .001)	60.60 (< .001)	.37	.53

multicultural families were more culturally sensitive than those who did not. These results confirm with results from other studies that show a higher level of cultural sensitivity in general teachers in elementary schools [28] and college students [29] who had frequent contact with multicultural children or who had foreign friends compared to those without such experiences. Level of interest and positive attitude are considered likely to increase as one has more experience with people from different cultures [28]. Similarly, elementary school nurses were also likely to have more accommodating attitudes and higher cultural sensitivity toward multicultural children as they spent more time with them. Finally, it was found that school nurses with a high demand for multicultural education showed high levels of cultural sensitivity, suggesting that positive attitudes toward children in multicultural families may enhance educational demand to improve cultural sensitivity. Considering young school nurses who had previous experiences of caring for multicultural children and who recognized the necessity of multicultural education showed high cultural sensitivity in this study, the planned intervention for the teachers who are not under these categories can be helpful for increasing the cultural sensitivity of school nurses.

We found that the demographic characteristics of school nurses affect their cultural sensitivity in this study. The reported variables included age, career years, and behavior type of school nurses, which affect self efficacy of school nurses and possibly mediate their cultural sensitivity [30–32]. Therefore, we suggest further studies that examine the issue of how the interaction between reported demographic variables of school nurses and their self efficacy affect their cultural sensitivity.

Both multicultural attitudes and self efficacy of school nurses showed a significant positive correlation with cultural sensitivity. As cultural attitude is an internal state of judgment that influences

one's behavior toward and interaction with others [33], it can be argued that school nurses with a positive multicultural attitude may focus more on mutual understanding, respect, and moderation when they interact with students from multicultural families. These results support the previous study by Kang and Lim [14], who examined the relationship between multicultural attitude and cultural sensitivity in general college students.

It was confirmed that school nurses' self efficacy showed a partial mediating effect on the relationships between multicultural attitude and cultural sensitivity. Adding the positive multicultural attitude of school nurses has a direct corresponding effect on cultural sensitivity; the positive multicultural attitude also increases the level of school nurses' self efficacy. That is, a supportive and sympathetic attitude toward children from multicultural families—school nurses' positive multicultural attitude—may contribute to enhancing cultural sensitivity. Concurrently, school nurses with high self efficacy in their roles will endeavor to perform their full duties with confidence and embody the desirable aspects, such as a sense of responsibility and emotional stability in their work [34,35]. They are also likely to know how to communicate with their students who have foreign cultural backgrounds and foster children's development by helping them have positive feelings about themselves. This may lead to providing qualified care for young students who have different cultural backgrounds.

The results clearly suggest that self efficacy should be included in the development of training programs to enhance the cultural sensitivity of school nurses in elementary schools. It also supported the previous findings that self efficacy as a cognitive factor could be a significant determinant of the cultural sensitivity in nursing students [24] and hospital nurses [17].

In conclusion, the finding that school nurses' self efficacy can play a constructive and mediating factor in enhancing their cultural

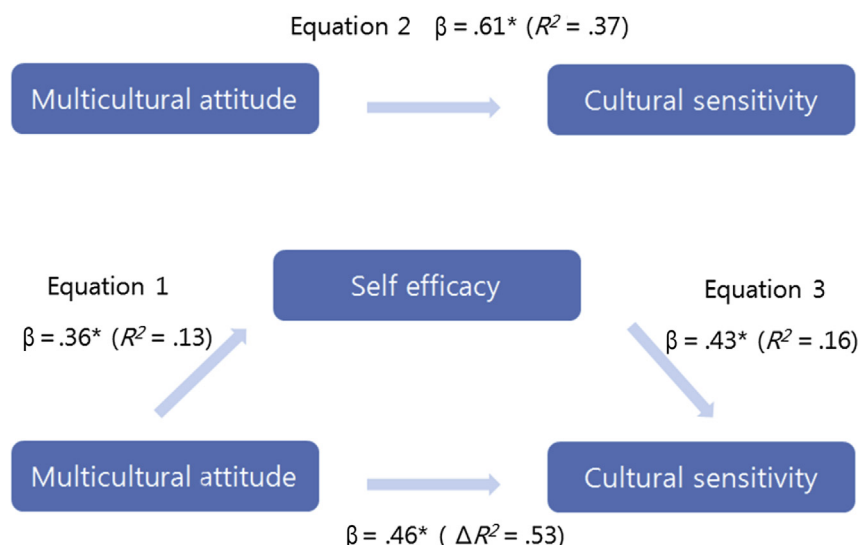


Figure 2. Mediating effect of self efficacy on the relationships between multicultural attitude and cultural sensitivity. Note. * $p < .001$.

sensitivity in the elementary school system is critical. It indicates that school nurses in elementary school need to attain knowledge and skills that are conducive to positive multicultural attitudes. Through the training program to enhance cultural sensitivity, they may curb cultural biases and support young children from multicultural families. It will also be helpful to develop a multicultural self efficacy scale reflecting the unique multicultural situations in Korea in order to test the cultural sensitivity of school nurses.

Despite the meaningful contribution of the study results on expanding knowledge regarding school nurses' multicultural attitudes and cultural sensitivity as well as the significant role of self efficacy as a mediator, there were several limitations. First, we need to be cautious about generalizing the results to other metropolitan areas as we used school nurses in one local city. Replication of our findings in another study would be useful. Second, as the majority of multicultural families consist of a parent from southeast Asia, cautious application of the results to families with Western cultural background is needed.

Conclusion

This study acknowledged the significant sociopsychological influence of school nurses on young children from multicultural families, and examined the degree of multicultural attitude and cultural sensitivity of school nurses in elementary schools. This included an investigation on the mediating effect of teacher self efficacy. The results indicated a strong need for the development of a training program for school nurses to promote their understanding and awareness of multicultural attitudes and cultural sensitivities. The present study also revealed that the multicultural attitude held by school nurses had an effect on their cultural sensitivity via the mediation of teacher efficacy; this indicates that a positive attitude toward multiculturalism can have a direct effect on a nurse's cultural sensitivity. Additionally, a teacher's self efficacy can work as a mediator between multicultural attitudes and cultural sensitivity, allowing them to provide quality healthcare to children with multicultural backgrounds. These results strongly suggest that an intervention program for school nurses to improve their cultural sensitivity should include strategies to enhance positive multicultural attitudes as well as improve their self efficacy as teachers.

Conflicts of interest

The authors declared no potential conflicts of interests.

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